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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,956	12/20/2000	Hau Lee	DEM1P003	7270

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Kang S Lim  
3494 Camino Tassajara Road number 436  
Danville, CA 94506

EXAMINER
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ROBINSON BOYCE, AKIBA K

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/741,956

Applicant(s)

LEE ET AL.

Examiner

Akiba K Robinson-Boyce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>112904</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of Claims***

1. Due to communications filed 11/29/04, the following is a final office action.

Claims 1-4 have been amended. Claims 1-5 are pending in this application and have been examined on the merits.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-5 are rejected under 35 U.S.C. 101 because the claimed invention is directed to a non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of :

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible result.

4. For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful art" (i.e., the physical sciences) as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim, the recited process must somehow apply, involve, use, or advance the technological arts.

5. In the present case, claim 3 is directed to an econometric engine for modeling sales as a function of price. Claim 3 recites "an imputed variable generator" and "a coefficient estimator coupled to the imputed variable generator, and wherein imputed variables generated by the variable generator are used by the coefficient estimator to create a sales model". However, these claims are directed towards software, which alone is not statutory. In order to be statutory, this software must be embodied on a tangible medium. Since no software embodied on a tangible medium exist, claim 3, and all claims that depend from it (claims 4 and 5) are non-statutory.

6. As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breath life and meaning into the preamble.

In the present case, the preamble of claim 1 recites "A method for creating a sales model for a plurality of products, the method being implemented as a plurality of program instructions in a computer system". However, since no computer hardware or software embodied on a tangible medium are in the body of the claim, claim 1 and all claims that depend from it (claim 2) are therefore non-statutory.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The preamble of claim 3 recites "An econometric engine for modeling sales as a function of price, the engine being implemented in a computer system". However, it is not clear as to whether the applicant is claiming the combination of the engine and the computer system, or just the econometric engine alone, therefore making the claim indefinite. Since the claim can be interpreted as just claiming the econometric engine alone, and not a computer system to make the engine run, this claim is also subject to a 35 USC 101 rejection as discussed above in paragraph 5.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al (US 6,078,893), and further in view of Garg, (US 6,044,357)

As per claim 1, Ouimet et al discloses:

Creating a plurality of demand groups, wherein each demand group is a set of at least one product, and wherein at least one of the demand groups is a set of at least

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two products, (col. 5, lines 45-64, [shows demand is described for each item in a given group where the product is represented by the item, in this case, one of the demand groups being a set of at least two products is inherent since Ouimet et al discloses that "each item in a given group" implies that there are more than one items in a group since the sales of "one" item can depend upon the parameters of all the other items]);

Creating a sales model as a function of price for each demand group, (col. 6, lines 5-11, [shows a one-dimensional demand model which scales the amount of sales, in this case, the variables are simply the prices  $\{p\}$ , and the demand parameters  $q_i$  scales the amount of sales and  $g_i$ , which describes the sensitivity of the item to price]);

Ouimet et al does not specifically disclose creating a market share model for each product in each demand group, however does disclose defining a new market model that represents and describes how the demand parameters are expected to vary, where the demand parameters relate to the products in each demand group in col. 6, lines 17-25.

However, Garg discloses:

creating a market share model for each product in each demand group, (col. 5, lines 38-41, [market share model to characterize the demand distribution for each brand, in this case the group is represented by the brand]). Garg discloses this limitation in an analogous art for the purpose of showing that market share models are used to set base stock levels for inventory management.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to create a market share model for each product in each demand

group with the motivation of providing a representation of how the demand distribution is represented through products.

11. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chavez et al, (US 6,684,193), and further in view of Ouimet et al.

As per claim 3, Chavez et al discloses:

A imputed variable generator for generating imputed econometric variables; (col. 8, lines 22-27, [consumption distribution imputed {inferred} from components]);

A coefficient estimator coupled to the imputed variable generator, and wherein imputed variables generated by the variable generator are used by the coefficient estimator to create a sales model as a function of price, [col. 15, lines 6-14, [revenue coefficient]].

Chavez et al does not specifically disclose the terms "variable generator" or "coefficient estimator", however, does disclose an engine (col. 18, lines 23-27) that produces the same results, and therefore represents the econometric engine that contains the "variable generator" and the "coefficient estimator". Therefore, the "variable generator" and the "coefficient estimator" are inherent with Chavez et al.

Chavez et al fails to disclose including a base price variable and a base volume Variable, but does disclose the generation of a model for the demand of a product in col. 53-63.

However, Ouimet et al discloses:

including a base price variable and a base volume variable, (Col. 10, lines 60-65, where the base parameters in the demand model are the amount of sales and price,

here the amount of sales is the volume and the price is the price). Ouimet et al discloses this limitation in an analogous art for the purpose of disclosing a one-dimensional demand model.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to include a base price variable and a base volume variable with the motivation of having variables available to formulate a base demand model.

As per claim 4, Chavez et al discloses:

Wherein the imputed variable generator receives raw data, and cleans the data, (Col. 20, lines 24-32, [filtering and then identifying variables]).

As per claim 5, Chavez et al discloses:

Wherein the coefficient estimator creates the sales model by creating a sales model for a demand group and creating a market share model for a product in the demand group, (col. 7, lines 8-19, [model where a demand for products is expressed], Col. 13, lines 28-43, [creating a model that includes lost market share]).

12. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al (US 6,078,893) as applied to claim 1 above, and further in view of Garg, (US 6,044,357), and further in view of Chavez et al (US 6,684,193).

As per claim 2, both Ouimet et al and Garg fail to disclose collecting raw data; and generating imputed variables from the raw data, wherein the imputed variables are used to create the sales model, as a function of price, but Ouimet et al does disclose generating a sales model in Col. 6, lines 5-11.



However, Chavez et al discloses:

collecting raw data; and generating imputed variables from the raw data, wherein the imputed variables are used to create the sales model, as a function of price, (Col. 20, lines 24-32, [filtering and then identifying variables], w/ col. 6, lines 5-11, [shows a one-dimensional demand model which scales the amount of sales, in this case, the variables are simply the prices  $\{p\}$ , and the demand parameters  $q_i$  scales the amount of sales and  $g_i$ , which describes the sensitivity of the item to price]). Chavez et al discloses this limitation in an analogous art for the purpose of identifying variables that go furthest in "explaining" the uncertainty in the particular variable of interest.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to collect raw data; and generate imputed variables from the raw data, wherein the imputed variables are used to create the sales model as a function of price with the motivation of producing a sales model with unused data.

### ***Response to Arguments***

13. Applicant's arguments with respect to claims 3-5 have been considered but are moot in view of the new ground(s) of rejection.

14. Applicant's arguments filed 11/29/04 have been fully considered but they are not persuasive.

As per claim 1, the applicant argues that neither Ouimet '893 nor Garg '357 teach the creation of a sales model as a function of price. However, as stated above in the rejection of claim 1, Ouimet et al discloses this feature in col. 6, lines 5-11. Here,

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Ouimet et al shows a one-dimensional demand model that scales the amount of sales.

In this case, the variables are simply the prices  $\{p\}$ , and the demand parameters  $q_i$  scales the amount of sales and  $g_i$ , which describes the sensitivity of the item to price.

As per claim 2 this claim is rejected for the same reasons as disclosed above with respect to claim 1.

### ***Conclusion***

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akiba K Robinson-Boyce whose telephone number is 703-305-1340. The examiner can normally be reached on Monday-Tuesday 8:30am-5pm, and Wednesday, 8:30 am-12:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7238 [After final communications, labeled "Box AF"], 703-746-7239 [Official Communications], and 703-746-7150 [Informal/Draft Communications, labeled "PROPOSED" or "DRAFT"].

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



A. R. B.  
February 14, 2005



TARIQ R. HAFIZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600